Variant RF Exposure Report

Report No.:	SA170419C34A
FCC ID:	W23-JWX5556
Test Model:	JWX6055, JWX6056
Received Date:	Apr. 19, 2017
Date of Evaluation:	May 31, 2018
Issued Date:	Jun. 05, 2018
Applicant:	jjPlus CORP.
Address:	13F.-3, No.120, Qiaohe Rd., Zhonghe Dist., New Taipei City 23584, Taiwan (R.O.C.)
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
Test Location:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Vil, Kwei Shan Dist., Taoyuan City 33383, Taiwan (R.O.C)
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
SA170419C34A	Original Release	Jun. 05, 2018

1 Certificate of Conformity

Product:	802.11ac/abgn 2T2R Half Mini-PCI-Express Module
Brand:	jjPlus
Test Model:	JWX6055, JWX6056
Sample Status:	Identical Prototype
Applicant:	jjPlus CORP.
Date of Evaluation:	May 31, 2018
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : Rona Chen , **Date:** Jun. 05, 2018

Rona Chen / Specialist

Approved by : , **Date:** Jun. 05, 2018

Dylan Chiou / Project Engineer

2 General Information

This report is issued as a supplementary report to BV CPS report no.: SA170419C34-1. The difference compared with original report is enabling bands from frequency 5.26 ~ 5.32 GHz and 5.50 ~ 5.70 GHz function.

3 RF Exposure

3.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

f = Frequency in MHz ; *Plane-wave equivalent power density

3.2 MPE Calculation Formula

$Pd = (Pout*G) / (4*pi*r^2)$

where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

3.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

So, this device is classified as **Mobile Device**.

3.4 Antenna Gain

Antenna Type	Antenna Gain (dBi)			
	WLAN 2.4 GHz	WLAN 5.15~5.35 GHz	WLAN 5.47~5.725 GHz	WLAN 5.725~5.85 GHz
Dipole	2	2	2	2

3.5 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN 2412 ~ 2472 MHz	24.14	259.418	5.01	20	0.164	1.0
WLAN 5180 ~ 5240 MHz	22.24	167.314	5.01	20	0.106	1.0
WLAN 5260 ~ 5320 MHz	21.83	152.398	5.01	20	0.096	1.0
WLAN 5500 ~ 5700 MHz	21.91	155.279	5.01	20	0.098	1.0
WLAN 5745 ~ 5825 MHz	22.24	167.593	5.01	20	0.106	1.0

NOTE:
Directional gain = 2dBi + 10log(2) = 5.01dBi

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN 5GHz = 0.164 / 1 = 0.164

Therefore the maximum calculations of above situations are less than the "1" limit.

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